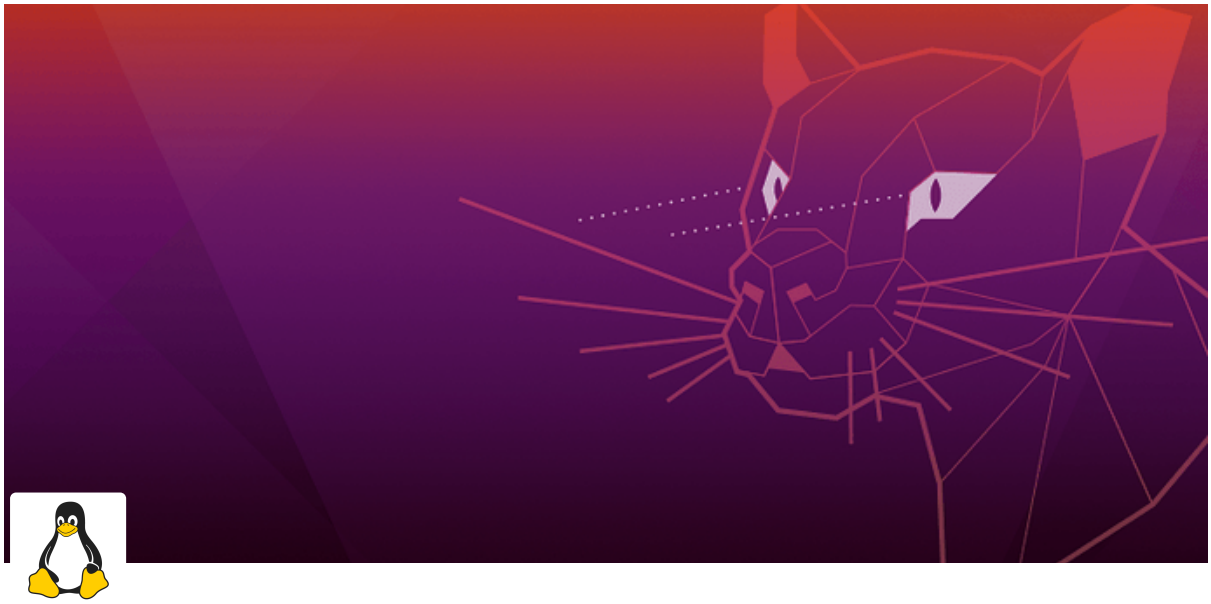


How to Install Linux On VirtualBox

Let's get started with Linux
- Virtualization
- Downloading Ubuntu ISO
- Setting Up Virual Box
- Installing Ubuntu
- Fixing Full Screen
- Want to learn more about Linux?
  - Connect with Us!

Let's get started with Linux

There are a lot of ways to install Linux on your device, you can install Linux by virtualizing or as a subsystem, or else you can install bare-metal. but here we are going to talk about how we can install Linux distribution (ubuntu) using virtualization. so for our virtualizing software, we are going to use a software called "Virtualbox" we are specifically selecting Virtualbox because its free and its an open-source software. installing this software is really simple. we will cover that below. also as our Linux flavor, we are installing ubuntu. but there are a lot of Linux distributions out there which is one of the main reasons beginners get confused, this

is why we thought of going for ubuntu. since ubuntu has great support and a good community and generally ubuntu is stable and user friendly. if you are interested in knowing more about Linux distributions search for "Linux family graph" and you can find more information about that.

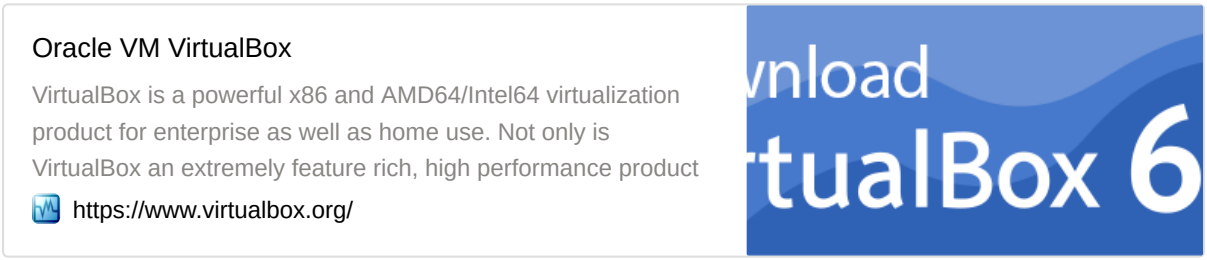
- Good internet connection.
- Windows system with at least 15gb storage
- Windows system with 4GB of RAM. (it works in low rams too but your system might get laggy)

Virtualization

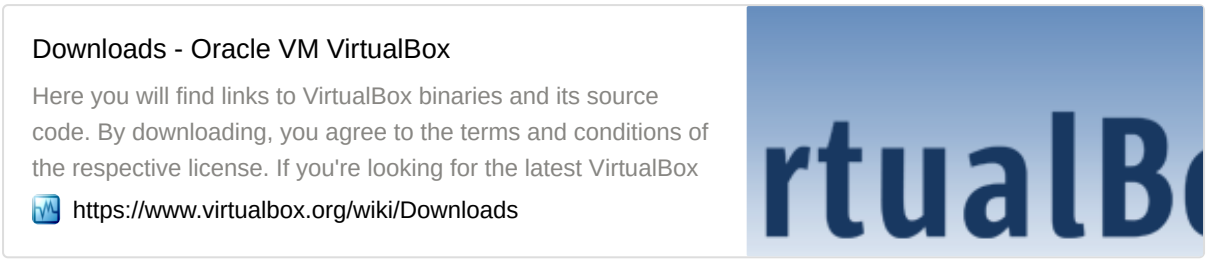
> In computing, virtualization or virtualization is the act of creating a virtual version of something, including virtual computer hardware platforms, storage devices, and computer network resources.

-Wikipedia

so virtualization basically means running a operating system inside of a operating system. for this we are using a tool called hypervisor which is also known as a virtual machine monitor or VMM, A hypervisor allows one host computer to support multiple guest VMs by virtually sharing its resources. so for this we are using Virtualbox as I mentioned above. to install this software first you need to go to their website


Oracle VM VirtualBox
VirtualBox is a powerful x86 and AMD64/Intel64 virtualization product for enterprise as well as home use. Not only is VirtualBox an extremely feature rich, high performance product
https://www.virtualbox.org/
vnload
rtualBox 6

from this website you can find the latest version and a button called download. this button will take you to the below page


Downloads - Oracle VM VirtualBox
Here you will find links to VirtualBox binaries and its source code. By downloading, you agree to the terms and conditions of the respective license. If you're looking for the latest VirtualBox
https://www.virtualbox.org/wiki/Downloads
rtualB

and from here you can select the operating system you are currently in

VirtualBox
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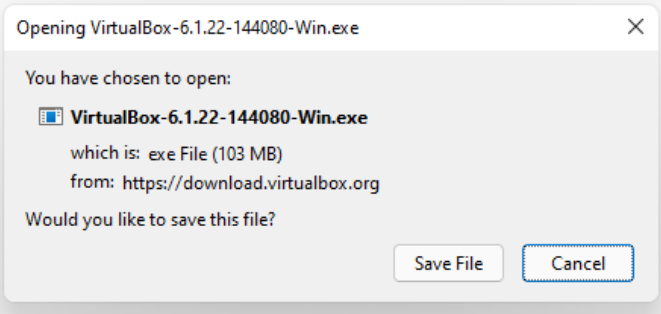
Downloads
Documentation
End-user docs
Technical docs
Contribute
Community
Here you will find links to VirtualBox binaries and its source code.
VirtualBox binaries
By downloading, you agree to the terms and conditions of the respective license.
If you're looking for the latest VirtualBox 6.0 packages, see VirtualBox 6.0 builds. Please a until July 2020.
If you're looking for the latest VirtualBox 5.2 packages, see VirtualBox 5.2 builds. Please a 2020.
VirtualBox 6.1.22 platform packages
Windows hosts
OS X hosts
Linux distributions
Solaris hosts
Solaris 11 IPS hosts

so in my case, I'm on windows so I'm going to click on the windows link and it will start to download a file called virtualbox.exe as you can see below

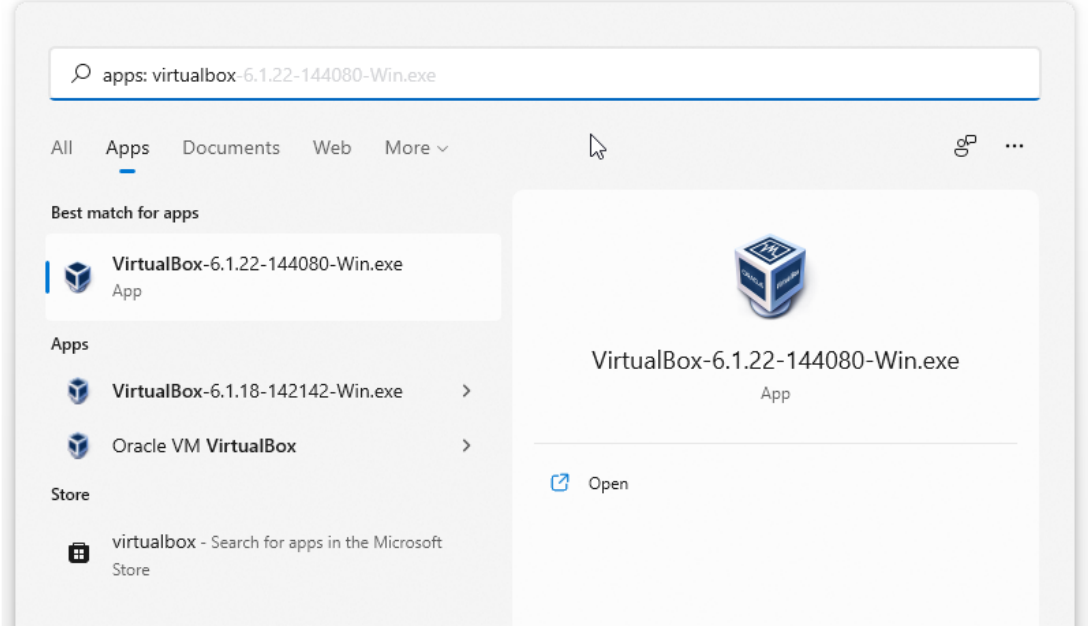


so just after downloading the setup double click on the exe file.

Oracle VM VirtualBox 6.1.22 Setup
Welcome to the Oracle VM VirtualBox 6.1.22 Setup Wizard
The Setup Wizard will allow you to repair your current installation or remove Oracle VM VirtualBox 6.1.22 from your computer. Click Next to continue or Cancel to exit the Setup Wizard.
Version 6.1.22
< Back
Next >
Cancel

and from here just like you install any other exe file you can install the VirtualBox using this installer. installation won't take a lot of time. so after the virtual box install

successfully you will see a shortcut on your home screen if not you can do some simple search to find it



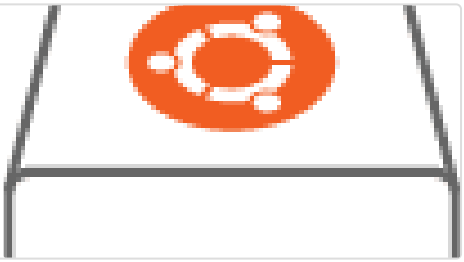
Downloading Ubuntu ISO

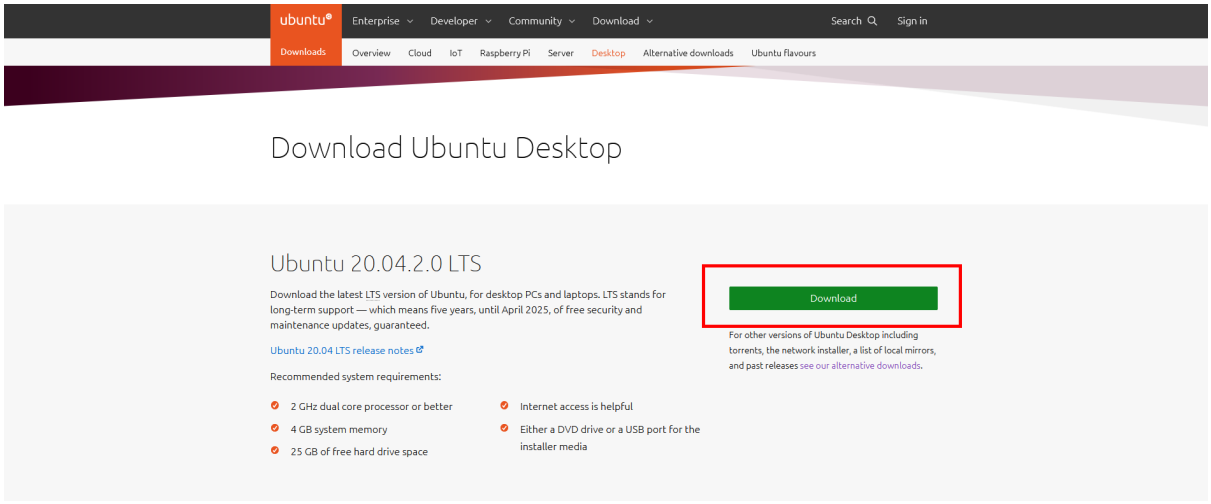
so after successfully install the VirtualBox software now we need to download a Linux iso. (ISO files are complete disk images) since we are using ubuntu in this case we are going to download ubuntu iso. for download the ISO first you need to go to ubuntu's downloads page. you can use the below link and it will redirect you there

Download Ubuntu Desktop | Download | Ubuntu

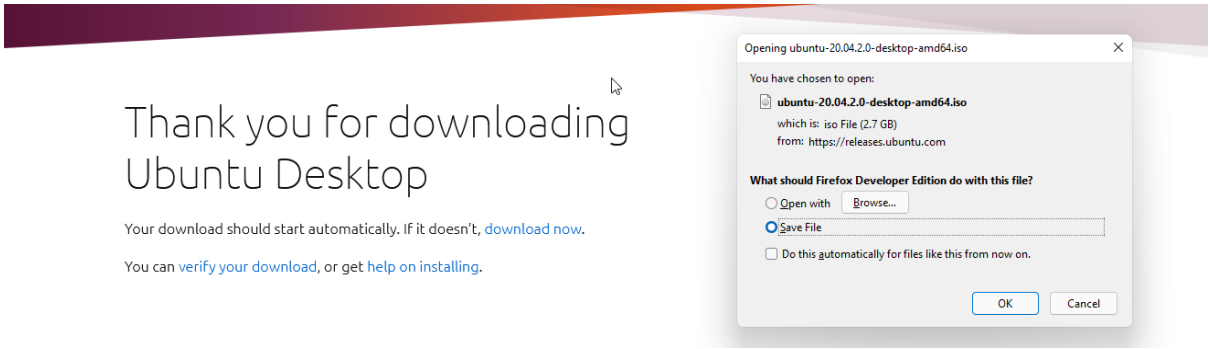
Download the latest LTS version of Ubuntu, for desktop PCs and laptops. LTS stands for long-term support - which means five years, until April 2025, of free security and maintenance

https://ubuntu.com/download/desktop




ubuntu
Enterprise
Developer
Community
Download
Search
Sign in
Downloads
Overview
Cloud
IoT
Raspberry Pi
Server
Desktop
Alternative downloads
Ubuntu flavours
Download Ubuntu Desktop
Ubuntu 20.04.2.0 LTS
Download the latest LTS version of Ubuntu, for desktop PCs and laptops. LTS stands for long-term support — which means five years, until April 2025, of free security and maintenance updates, guaranteed.
Ubuntu 20.04 LTS release notes
Recommended system requirements:
2 GHz dual core processor or better
4 GB system memory
25 GB of free hard drive space
Internet access is helpful
Either a DVD drive or a USB port for the installer media
Download
For other versions of Ubuntu Desktop including torrents, the network installer, a list of local mirrors, and past releases see our alternative downloads.

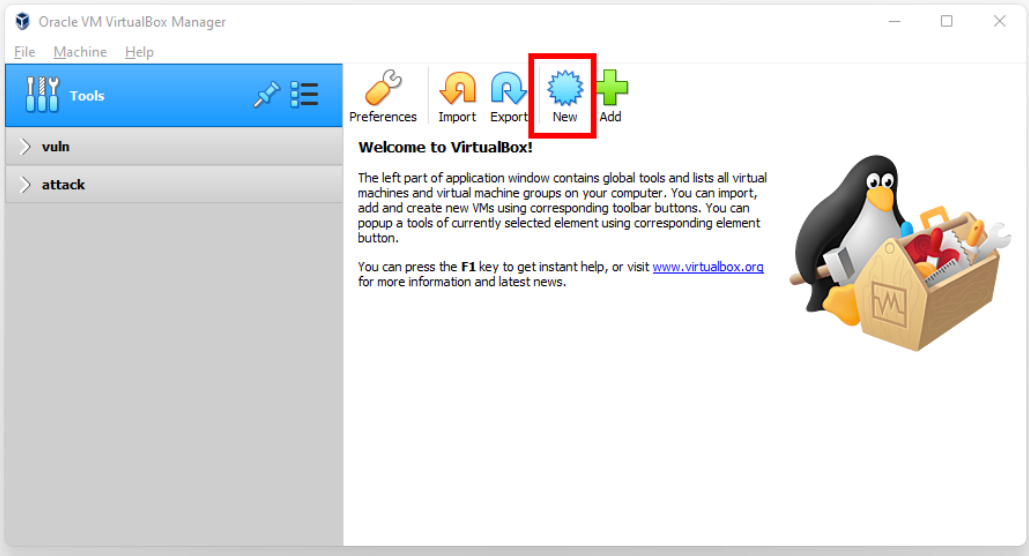
so as you can see above here click on the green download button in this case we are downloading the LTS version (Long-term support) so after you click on that file it will automatically start to download the iso file as you can see below. just click on okay and it will save the file. (remember this is quite a large file and it might take some time to download completely file size is around 2.7GB)


Thank you for downloading Ubuntu Desktop
Your download should start automatically. If it doesn't, download now.
You can verify your download, or get help on installing.
Opening ubuntu-20.04.2.0-desktop-amd64.iso
You have chosen to open:
ubuntu-20.04.2.0-desktop-amd64.iso
which is: iso File (2.7 GB)
from: https://releases.ubuntu.com
What should Firefox Developer Edition do with this file?
Open with
Browse...
Save File
Do this automatically for files like this from now on.
OK
Cancel

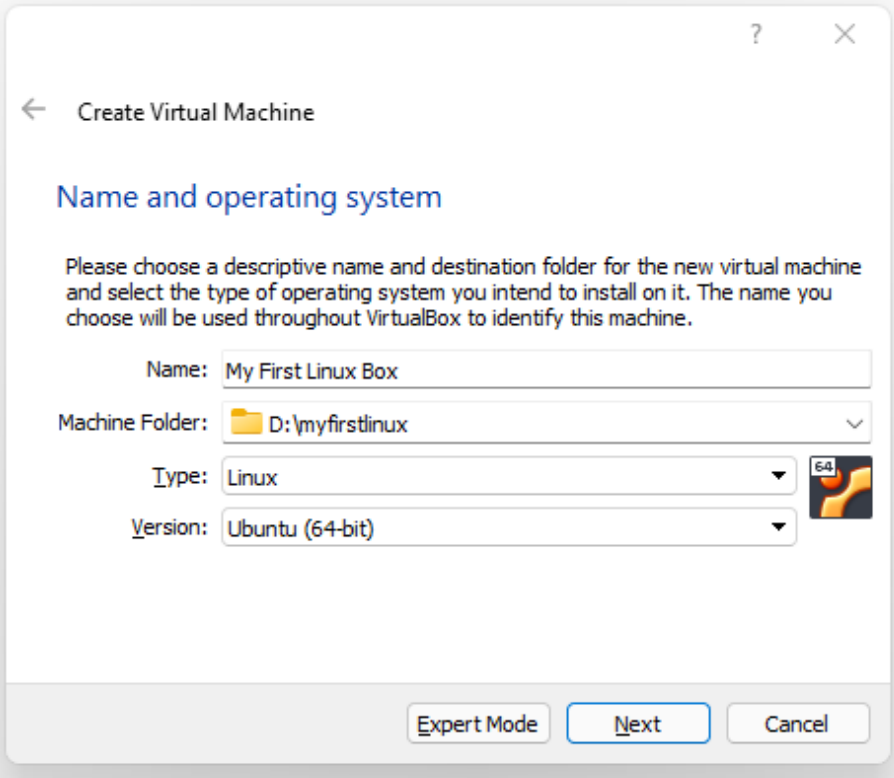
after downloading this file now we can start with finally installing.

Setting Up Virual Box

so far we have downloaded the ISO and installed virtual-box, now let's install Linux on virtual-box . so first of all open the virtual-box. and just after you did that you will see a interface like below


Oracle VM VirtualBox Manager
File
Machine
Help
Tools
vuln
attack
Preferences
Import
Export
New
Add
Welcome to VirtualBox!
The left part of application window contains global tools and lists all virtual machines and virtual machine groups on your computer. You can import, add and create new VMs using corresponding toolbar buttons. You can popup a tools of currently selected element using corresponding element button.
You can press the F1 key to get instant help, or visit www.virtualbox.org for more information and latest news.

from here you need to click on the `New` button, which I have highlighted on the above diagram. so after you click on that button it will open an interface like below


Create Virtual Machine
Name and operating system
Please choose a descriptive name and destination folder for the new virtual machine and select the type of operating system you intend to install on it. The name you choose will be used throughout VirtualBox to identify this machine.
Name:
My First Linux Box
Machine Folder:
D:\myfirstlinux
Type:
Linux
Version:
Ubuntu (64-bit)
Expert Mode
Next
Cancel

in the above interface select the options like I have done on the above image,

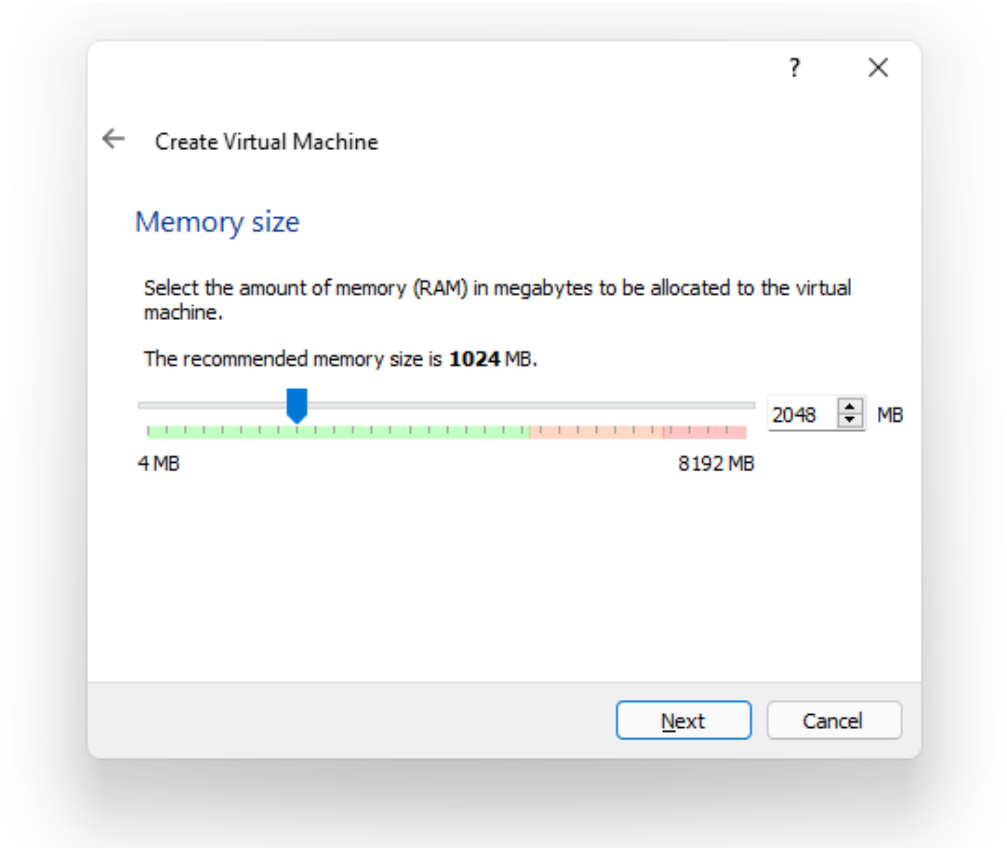
Name: select a name you like

Machine Folder: this is the location the Virtual Box will create (make sure you have space in this location)

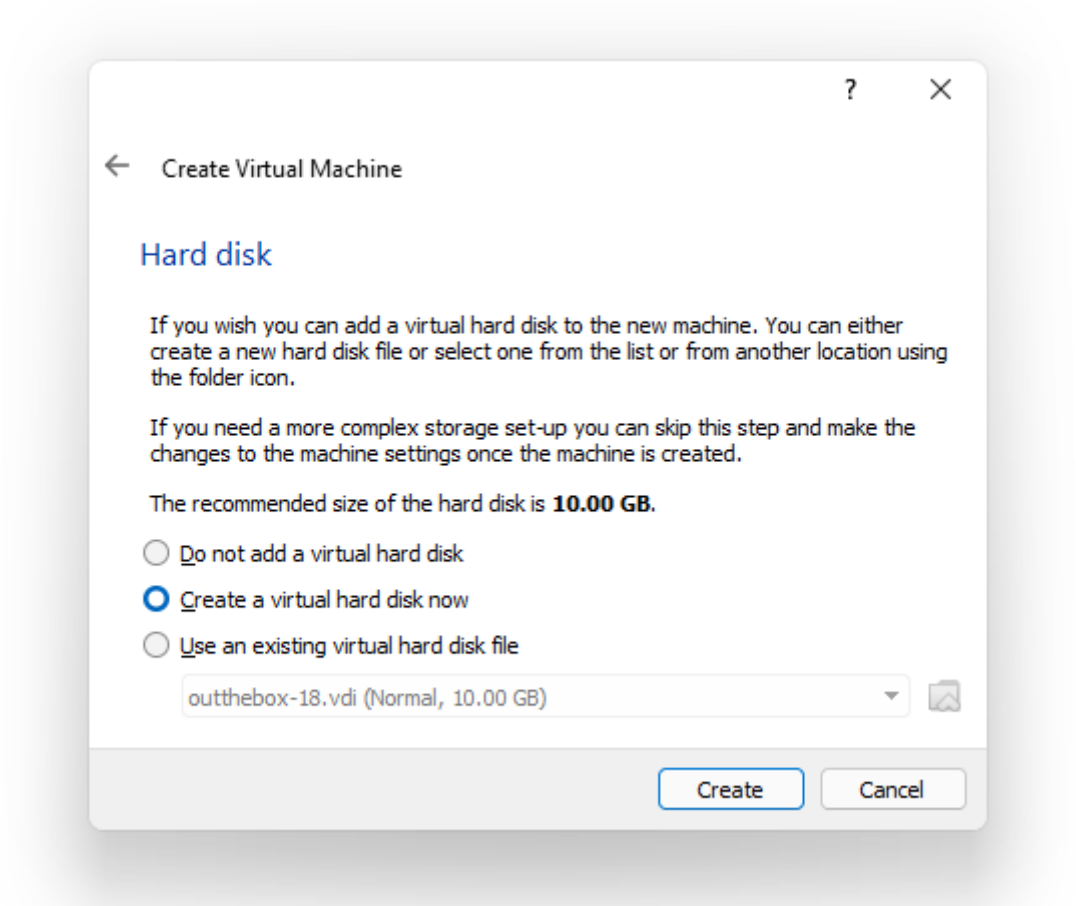
Type: since we are installing "Linux" Select it

Version: make sure you select Ubuntu and the Architecture depends on what you need to install in this case we are installing 64bit so select that

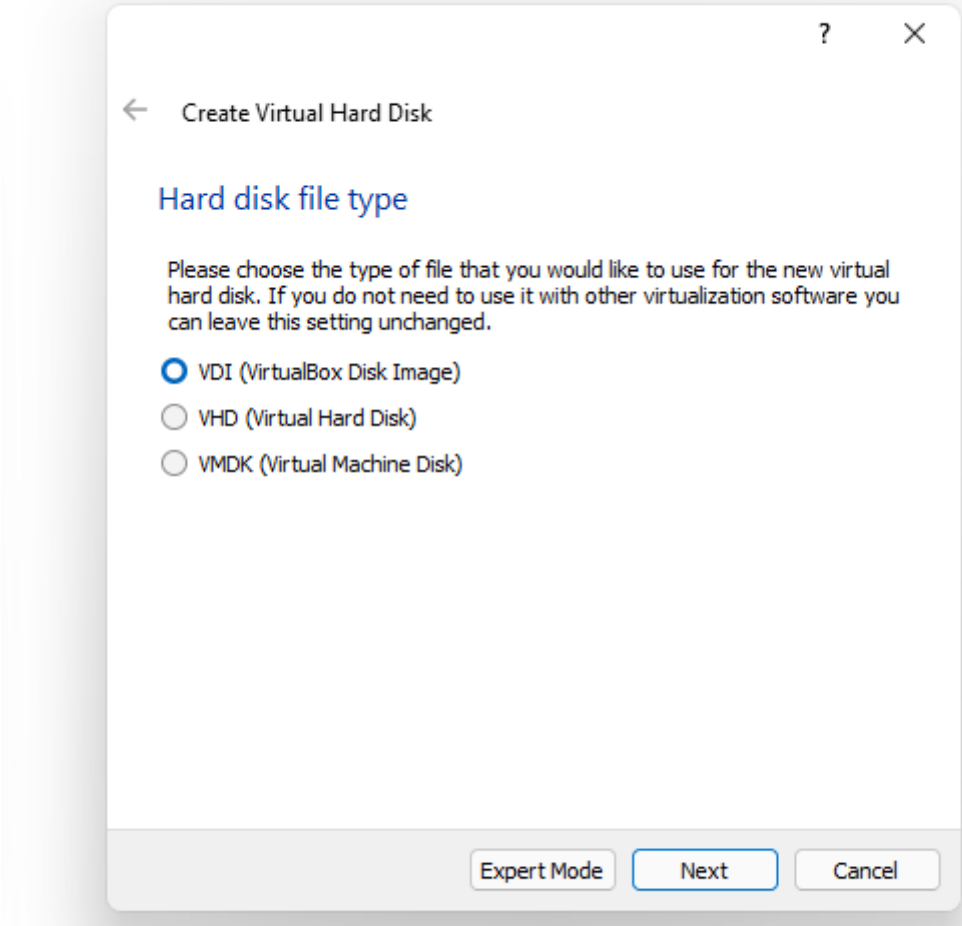
So after that you will get in to the next interface the place where you need to select the RAM for the virtual machine, in my case I have 4gb so I'm assigning 2Gb ram for this machine. if you have more RAM select more.



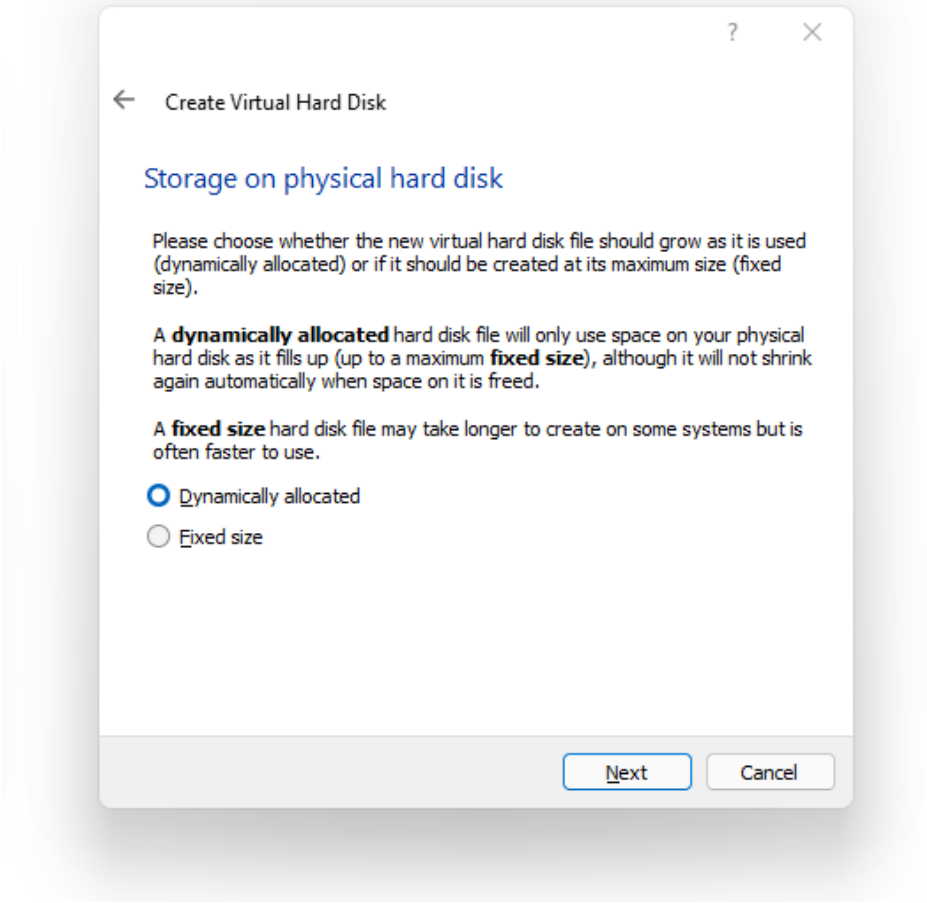
after that hit on Next and you will get to the below window where you need to select the HardDisk, so from here select the "Create a Virtual hard disk now" this is where the files for your Linux virtual machine will store.


Create Virtual Machine
Hard disk
If you wish you can add a virtual hard disk to the new machine. You can either create a new hard disk file or select one from the list or from another location using the folder icon.
If you need a more complex storage set-up you can skip this step and make the changes to the machine settings once the machine is created.
The recommended size of the hard disk is 10.00 GB.
Do not add a virtual hard disk
Create a virtual hard disk now
Use an existing virtual hard disk file
outthebox-18.vdi (Normal, 10.00 GB)
Create
Cancel

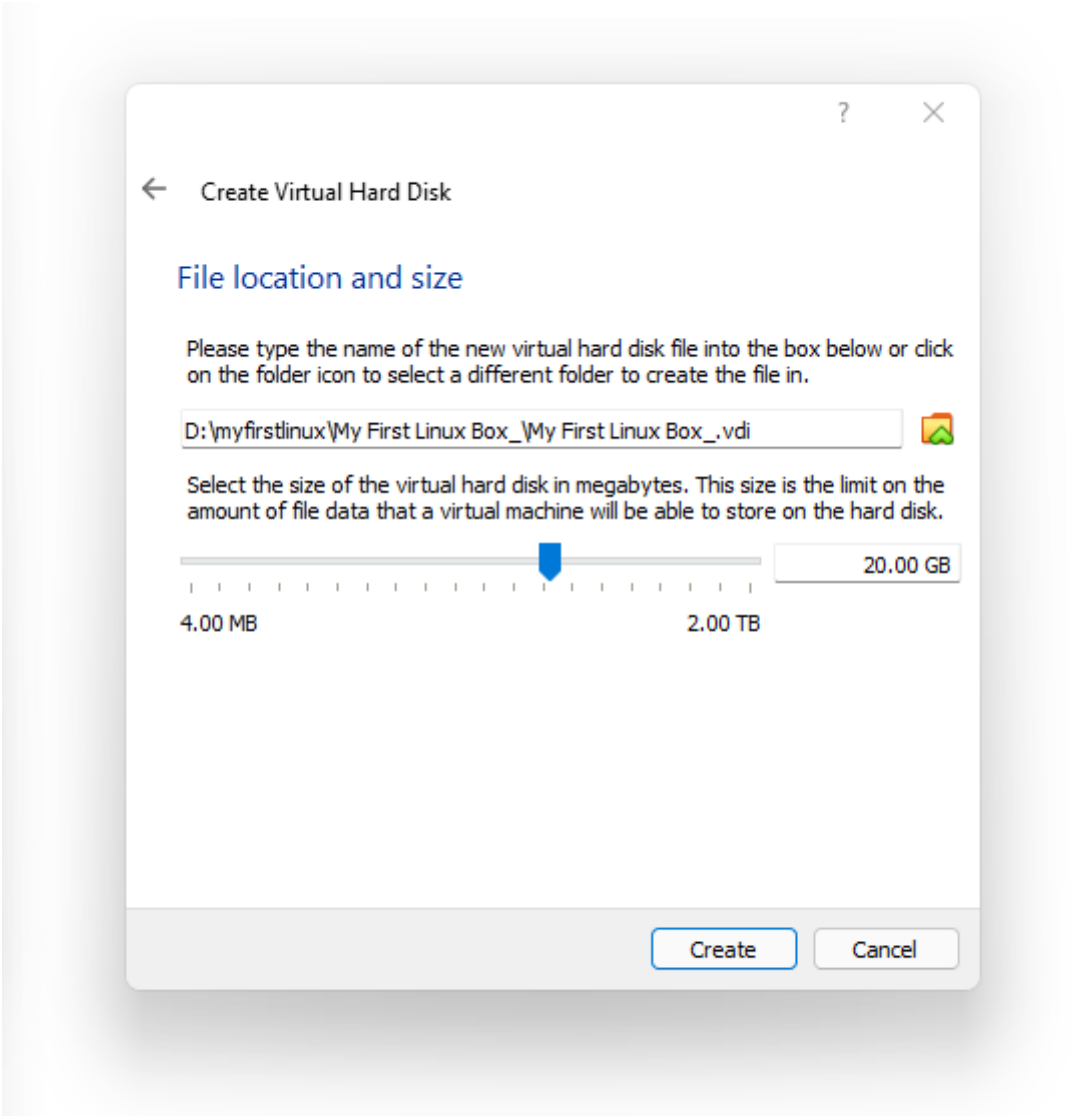
and after that you can select the Hard Disk file type for here I would recommend you selecting VDI which is the default selected type


Create Virtual Hard Disk
Hard disk file type
Please choose the type of file that you would like to use for the new virtual hard disk. If you do not need to use it with other virtualization software you can leave this setting unchanged.
VDI (VirtualBox Disk Image)
VHD (Virtual Hard Disk)
VMDK (Virtual Machine Disk)
Expert Mode
Next
Cancel

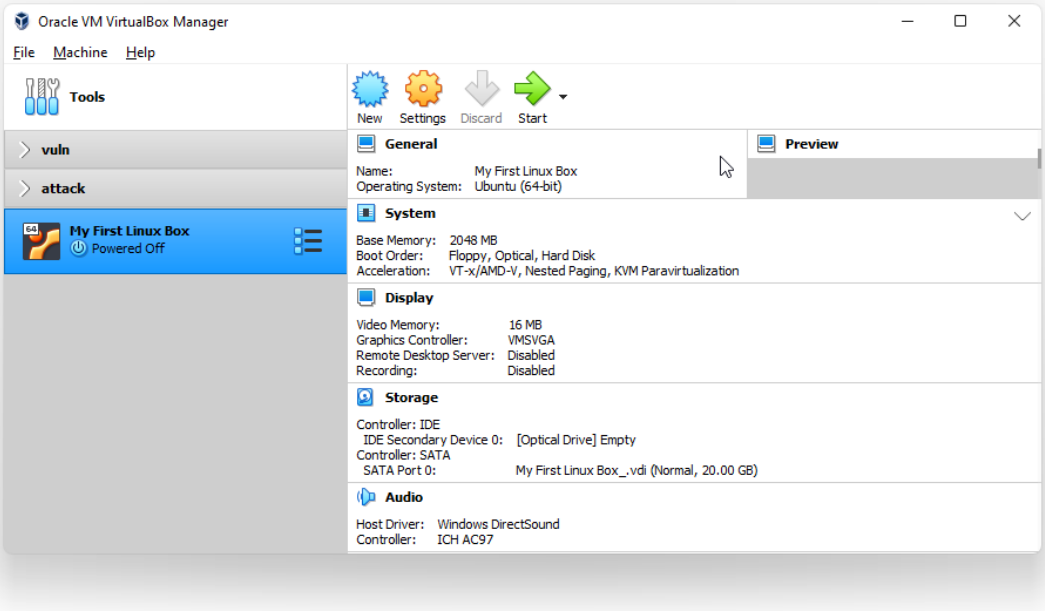
so after this we can select the storage type in here you have two options (Dynamically allocatied or fixed size) I personally recommand using the Dynamically allowcated size here but you can select anything


Create Virtual Hard Disk
Storage on physical hard disk
Please choose whether the new virtual hard disk file should grow as it is used (dynamically allocated) or if it should be created at its maximum size (fixed size).
A dynamically allocated hard disk file will only use space on your physical hard disk as it fills up (up to a maximum fixed size), although it will not shrink again automatically when space on it is freed.
A fixed size hard disk file may take longer to create on some systems but is often faster to use.
Dynamically allocated
Fixed size
Next
Cancel

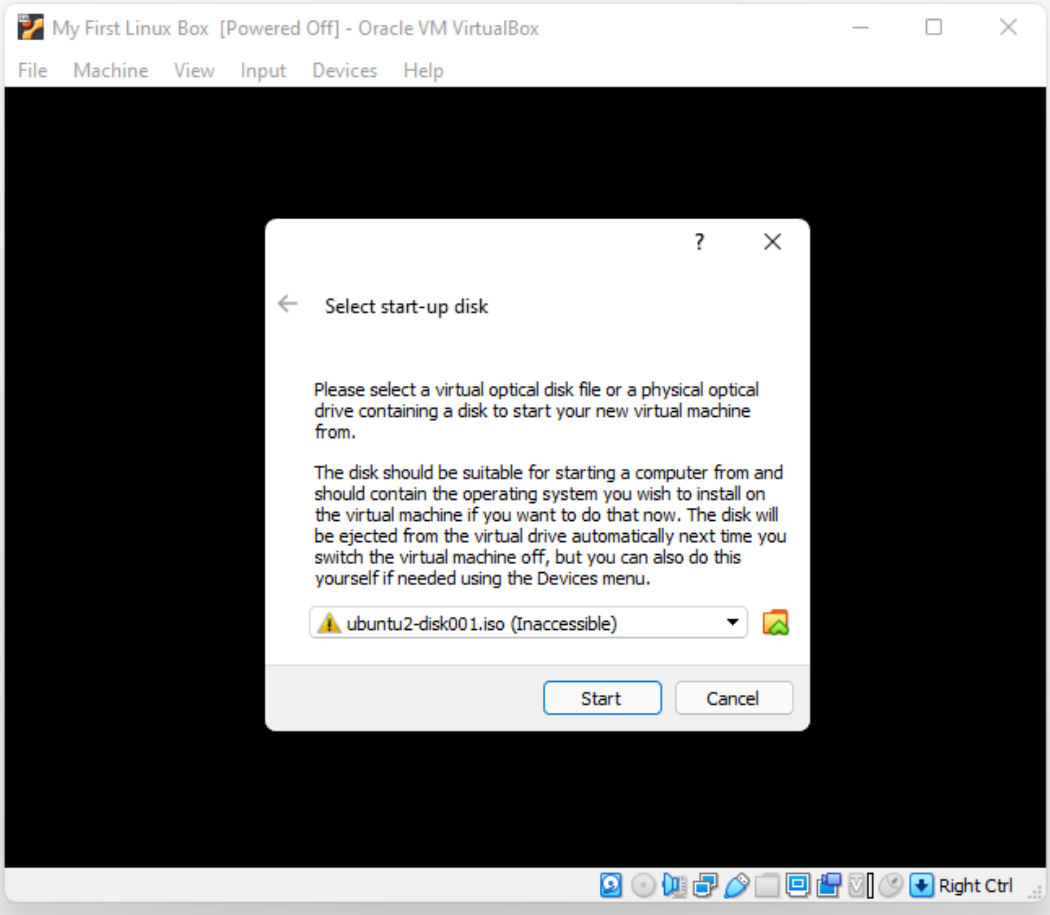
so after that now we can select the location for the Virtual Hard Drive and the size. I think the recommaned size for this is 10GB but I would recommend you using 20 - 50 GBs depending the storage availible on your computer, if you have more feel free to use any amount you need.


Create Virtual Hard Disk
File location and size
Please type the name of the new virtual hard disk file into the box below or click on the folder icon to select a different folder to create the file in.
D:\myfirstlinux\My First Linux Box_\My First Linux Box_.vdi
Select the size of the virtual hard disk in megabytes. This size is the limit on the amount of file data that a virtual machine will be able to store on the hard disk.
20.00 GB
4.00 MB
2.00 TB
Create
Cancel

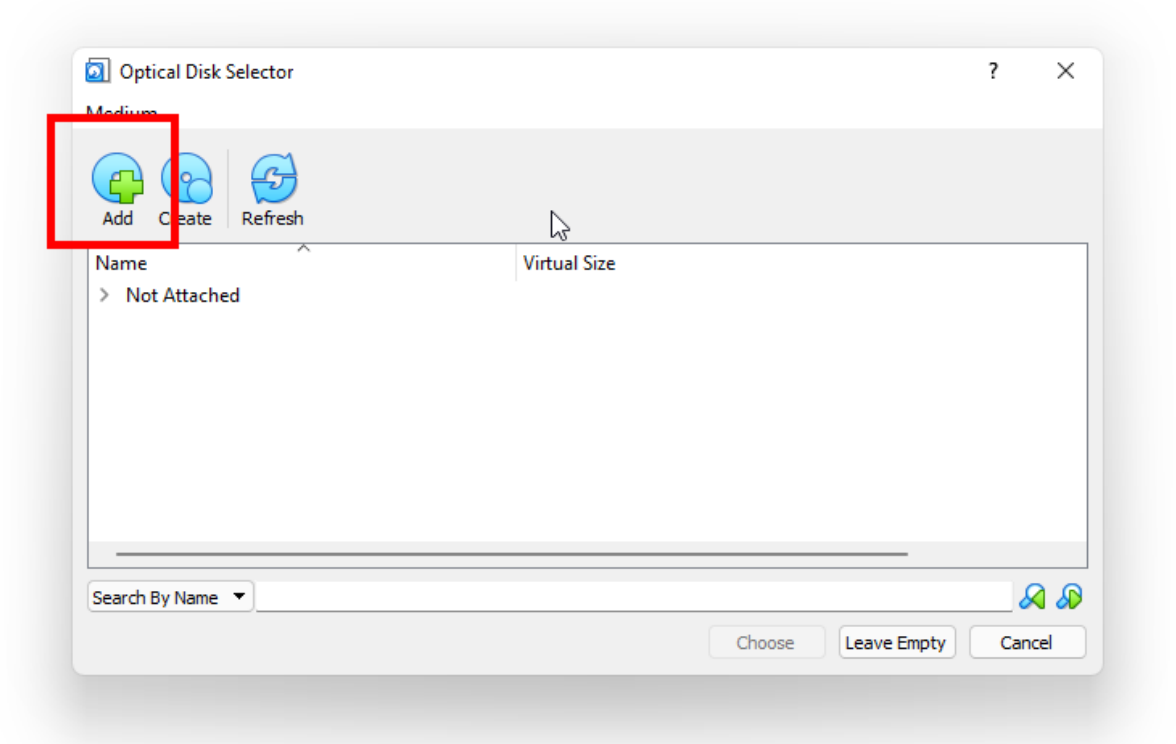
after selecting this you are almost ready to go, now it will automatically close the interface and you can see a new virtual machine will be there



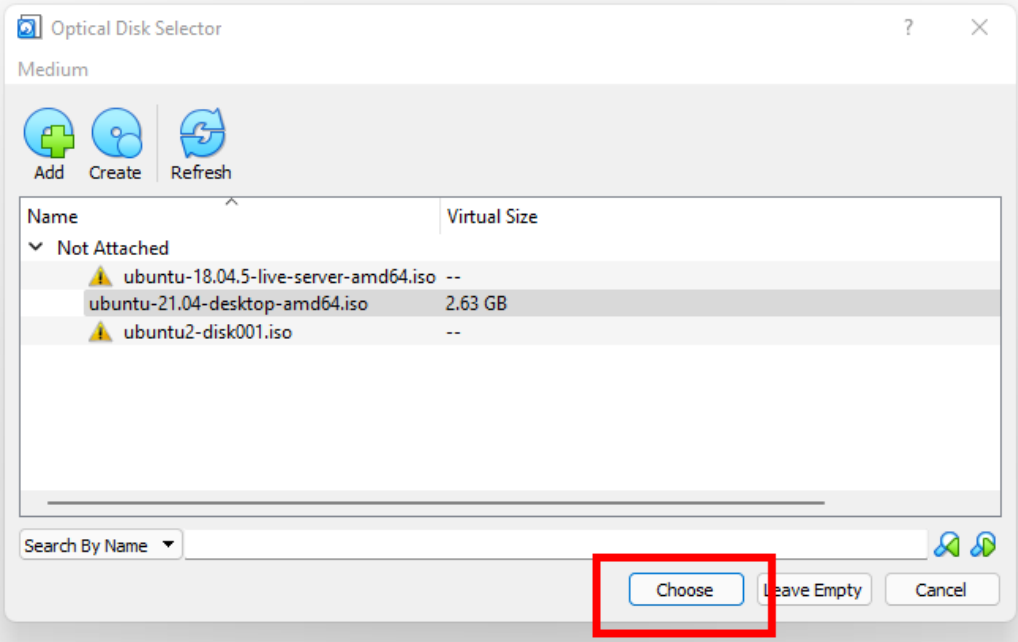
so now click on the green button called run in the top and you will get a interface like below


My First Linux Box [Powered Off] - Oracle VM VirtualBox
File Machine View Input Devices Help
Select start-up disk
Please select a virtual optical disk file or a physical optical drive containing a disk to start your new virtual machine from.
The disk should be suitable for starting a computer from and should contain the operating system you wish to install on the virtual machine if you want to do that now. The disk will be ejected from the virtual drive automatically next time you switch the virtual machine off, but you can also do this yourself if needed using the Devices menu.
ubuntu2-disk001.iso (Inaccessible)
Start
Cancel
Right Ctrl

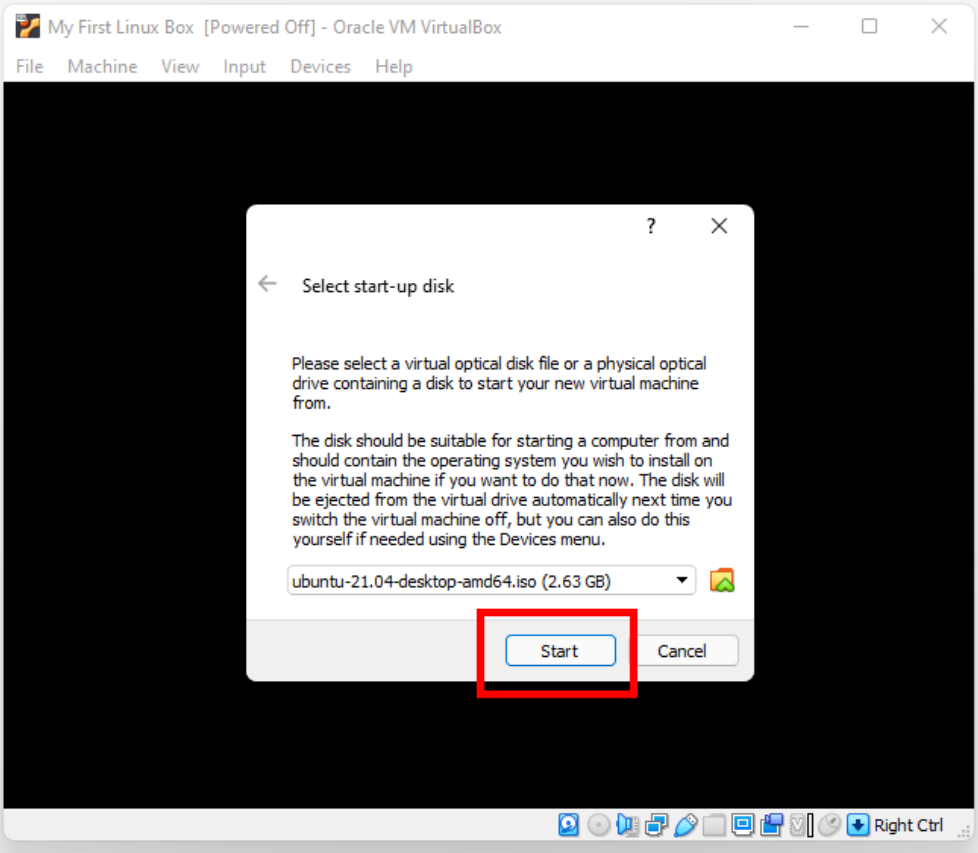
so this only happens once, what we have to do here is to select the iso file we download, for that click on the file icon and it will open the "Optical Disk Selecter Interface" as sow in below



from here click on the "add" button which is highlighted on the above image. this will open the file manager of your computer, select the Ubuntu ISO file we downloaded and click on okay, this will add a new file to the "name" group as below



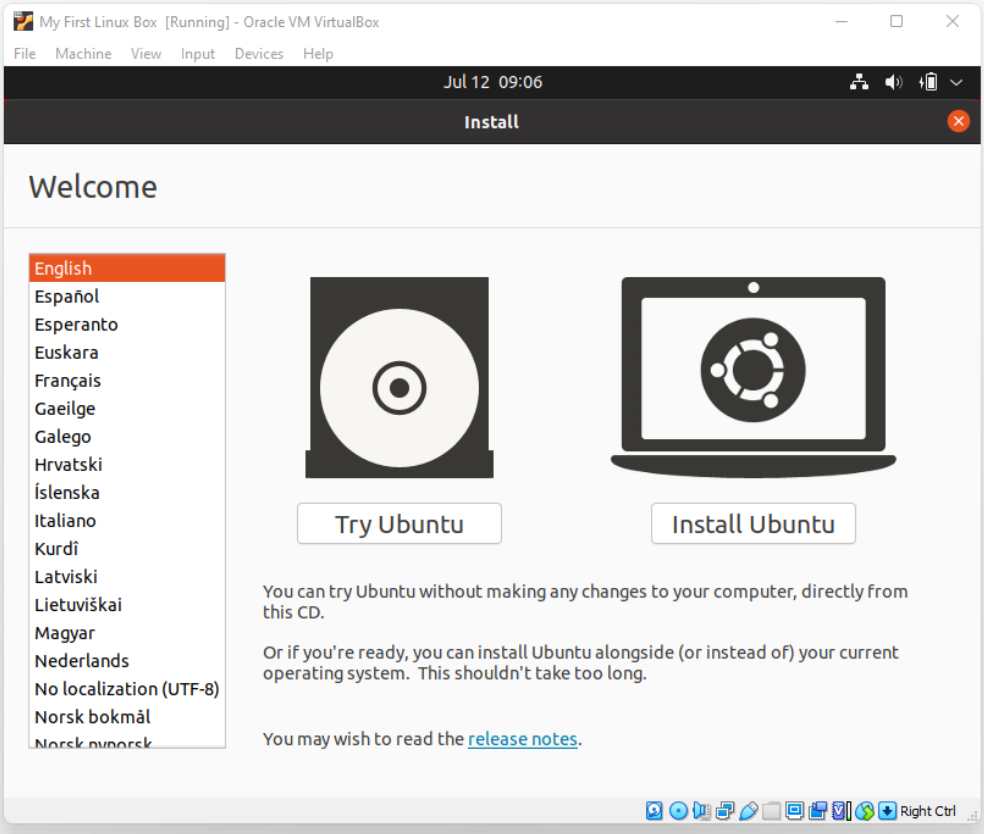
in here will only have a one file so dont worry, click on the chose button


My First Linux Box [Powered Off] - Oracle VM VirtualBox
File Machine View Input Devices Help
Select start-up disk
Please select a virtual optical disk file or a physical optical drive containing a disk to start your new virtual machine from.
The disk should be suitable for starting a computer from and should contain the operating system you wish to install on the virtual machine if you want to do that now. The disk will be ejected from the virtual drive automatically next time you switch the virtual machine off, but you can also do this yourself if needed using the Devices menu.
ubuntu-21.04-desktop-amd64.iso (2.63 GB)
Start
Cancel
Right Ctrl

and from here click on the start button.

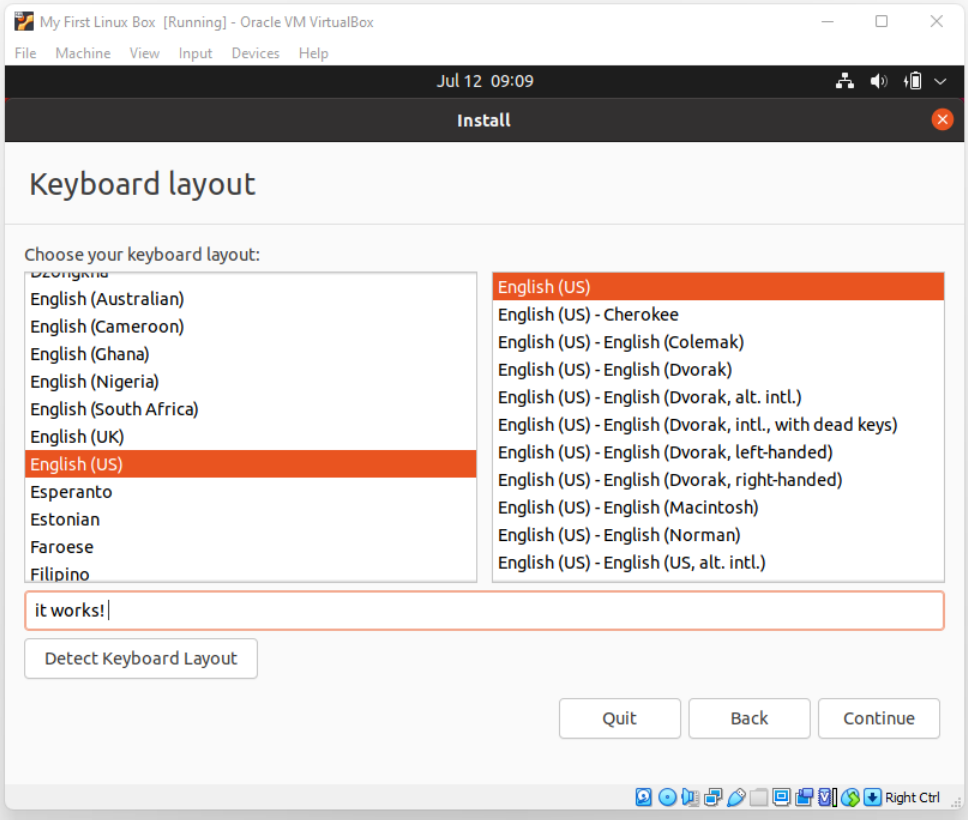
Installing Ubuntu

so far we setup a virtual environment and all that's left now is to install ubuntu in our virtual environment. so just after you click on the start button, it will start the ubuntu vm it might take some time but you will get to the below screen, (if you can't find your cursour click on the right CTRL button)

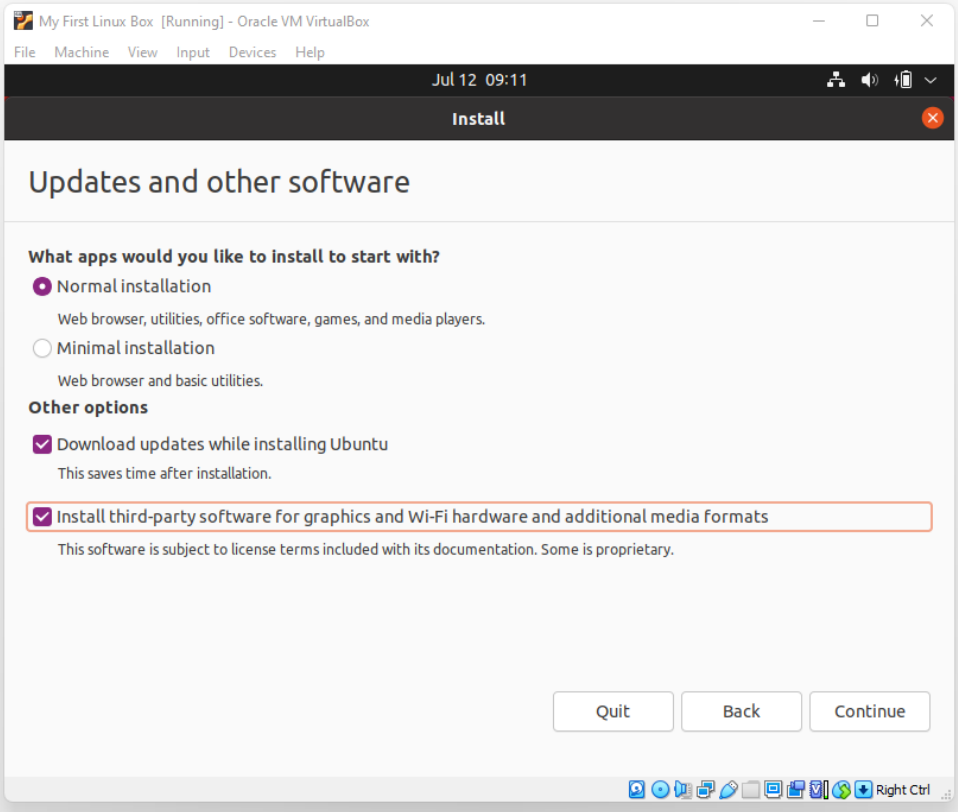


so from here if you are super curious you can click on "try Ubuntu" button or else you can click on the "Install Ubuntu" button to install it right now. so in this case I'm going to click on "`install Ubuntu"`

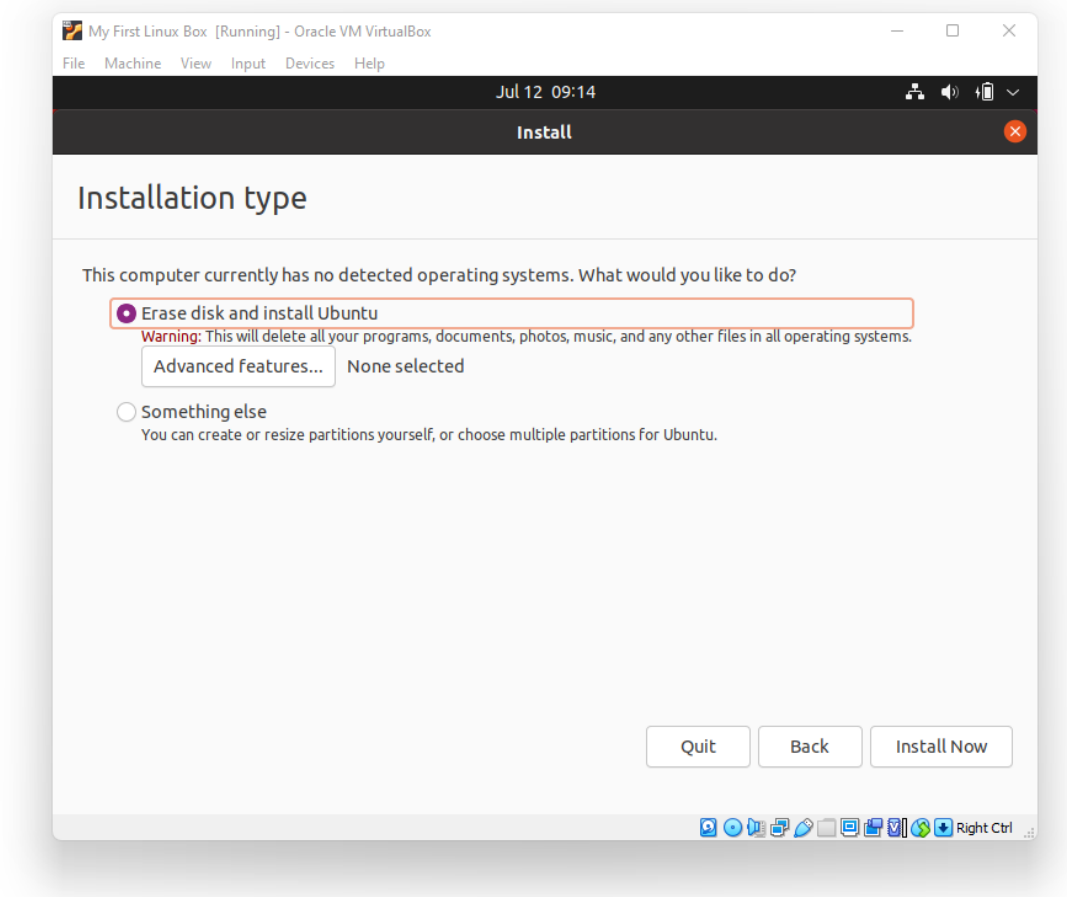
and then you will get to the below page, which is to select your keyboard layout. select your preferred layout from here and click on continue



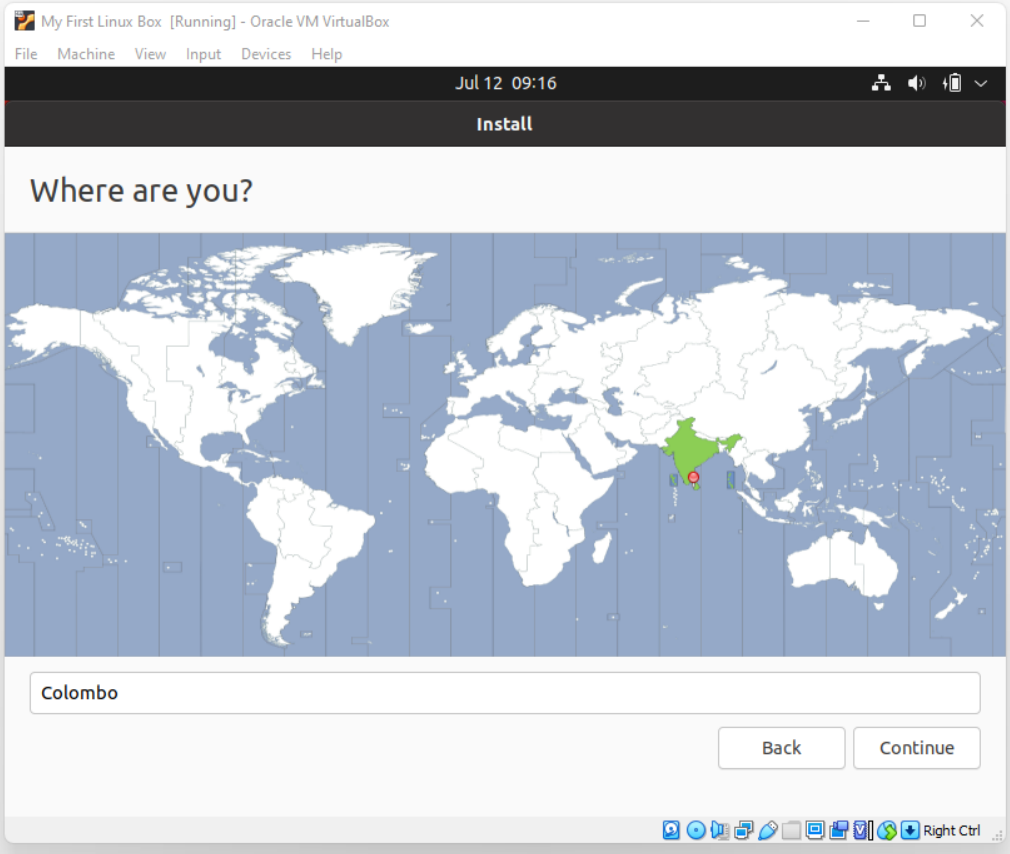
so after that, you will get to the Updates and Software page. in here select what you like, if you only need the basic utilities select the Minimal Installation but if you need other stuff like office and media players select Normal install. also, I would recommend you selecting installing third-party software Graphics drivers.. and download updates, this will save us a bit of time after installing


My First Linux Box [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Jul 12 09:11
Install
Updates and other software
What apps would you like to install to start with?
Normal installation
Web browser, utilities, office software, games, and media players.
Minimal installation
Web browser and basic utilities.
Other options
Download updates while installing Ubuntu
This saves time after installation.
Install third-party software for graphics and Wi-Fi hardware and additional media formats
This software is subject to license terms included with its documentation. Some is proprietary.
Quit
Back
Continue
Right Ctrl

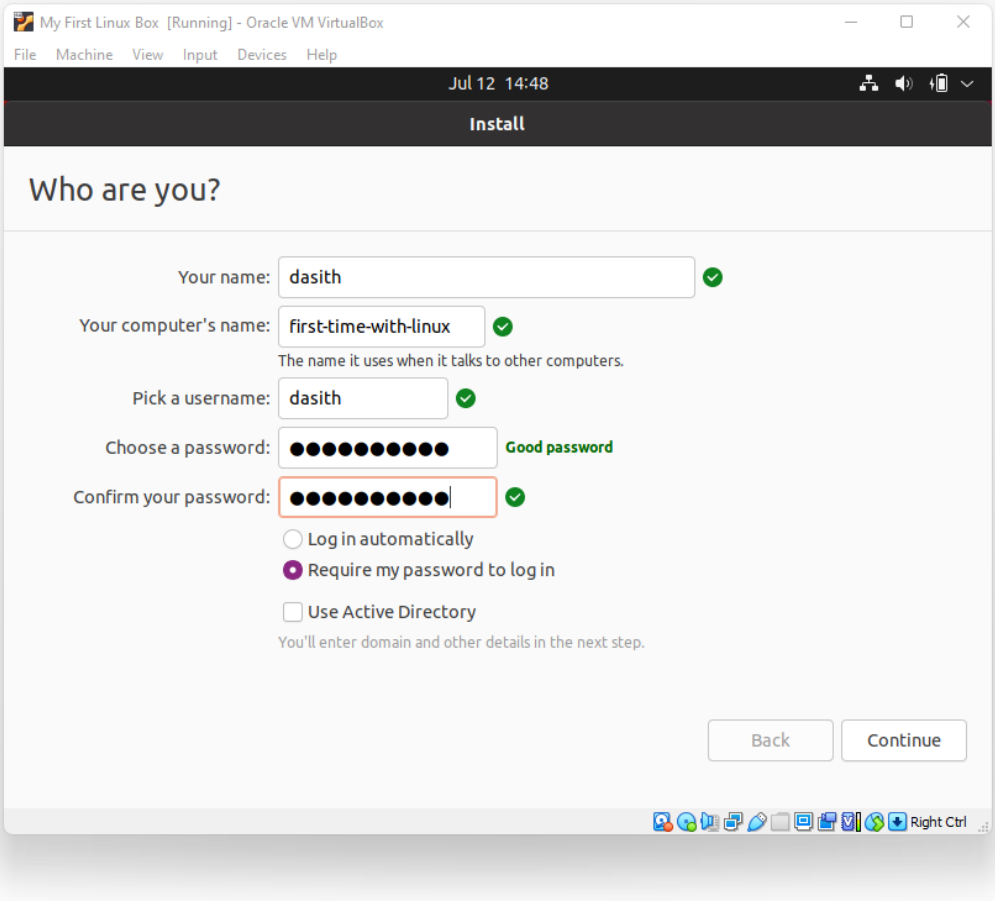
so after that we can select the installation type, in here slect on Erase disk and install ubuntu box, since we are using a virtual harddrive this wont affect your personal information or anything. it just cleares the virtual hard disk and install the ubuntu linux


My First Linux Box [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Jul 12 09:14
Install
Installation type
This computer currently has no detected operating systems. What would you like to do?
Erase disk and install Ubuntu
Warning: This will delete all your programs, documents, photos, music, and any other files in all operating systems.
Advanced features...
None selected
Something else
You can create or resize partitions yourself, or choose multiple partitions for Ubuntu.
Quit
Back
Install Now
Right Ctrl

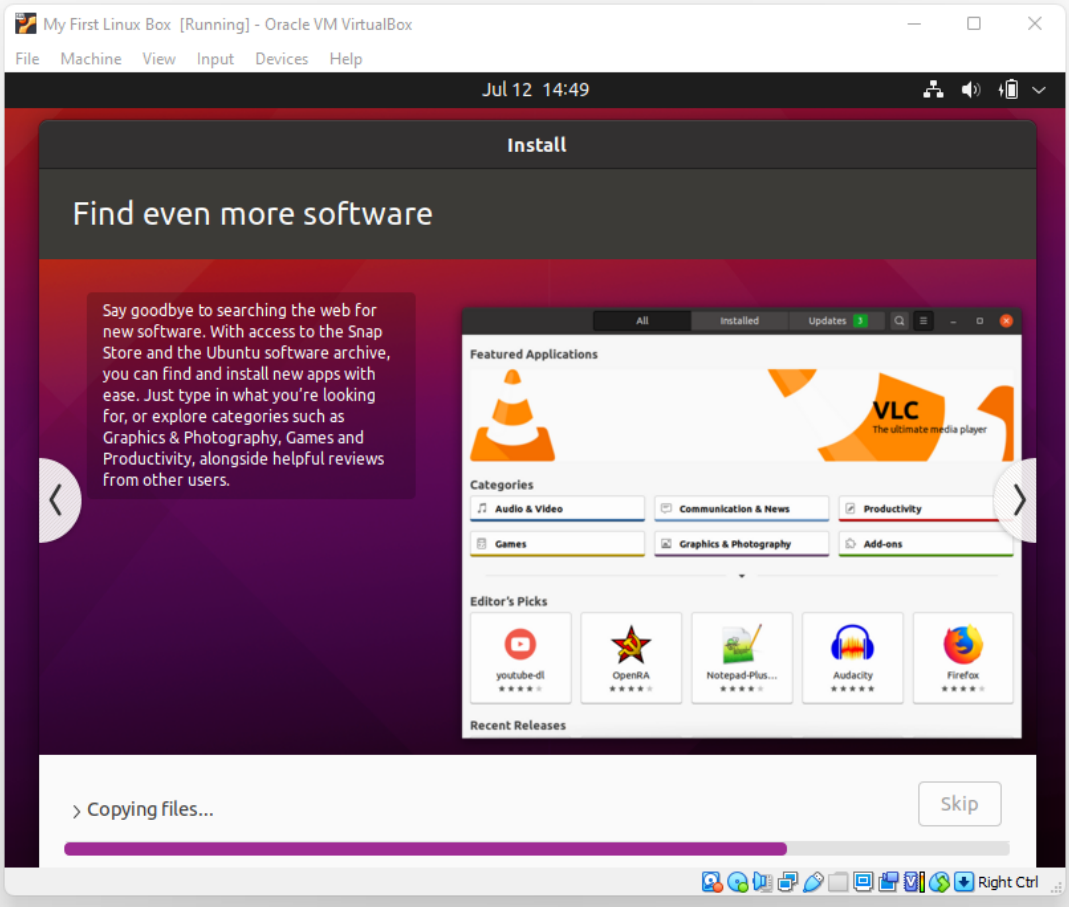
so after that click on install and then it will ask for your confirmation again, and click on continue on that. after doing it you will get to select your location . since I live in Colombo I selected Colombo in this case



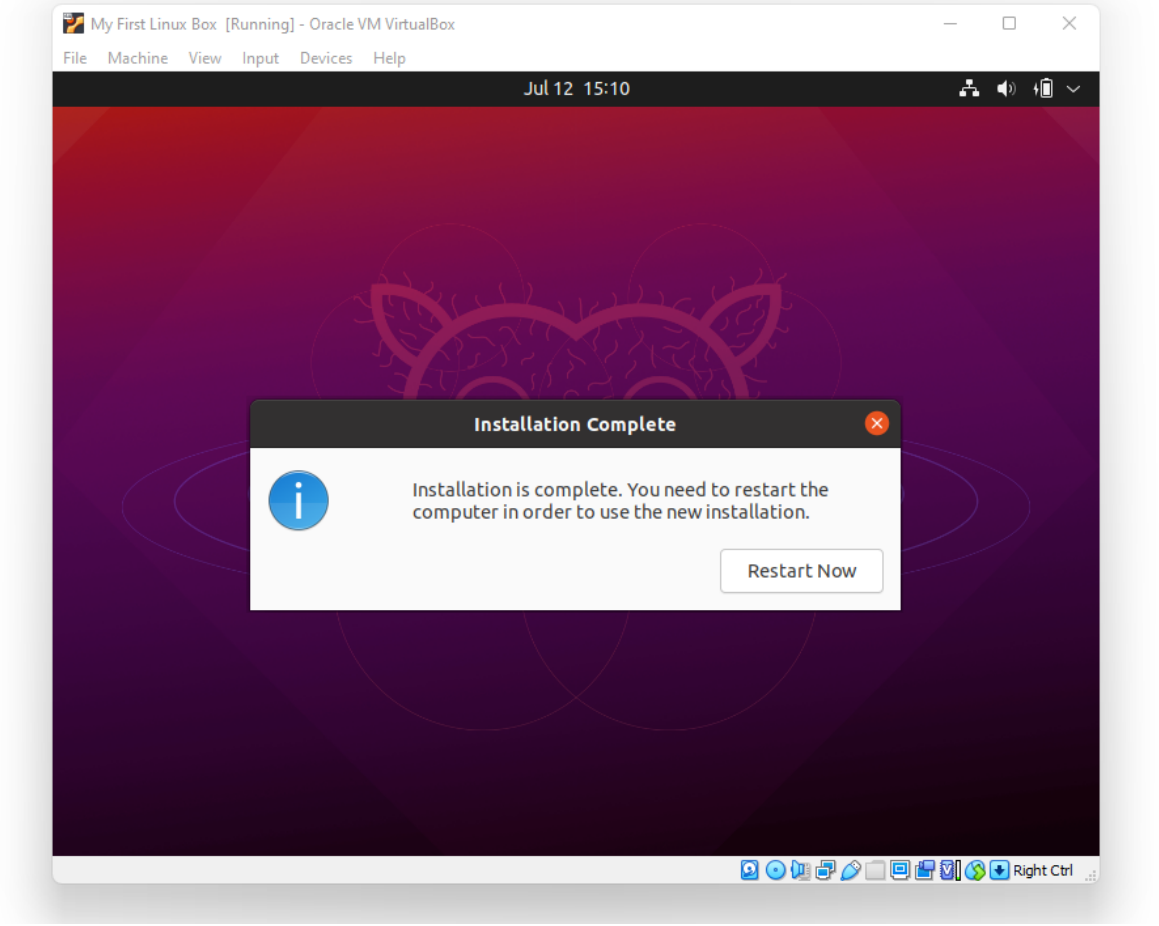
after that you will get to the "who you are" interface here, you can enter information like your name, your computers name and also you can set up a password


My First Linux Box [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Jul 12 14:48
Install
Who are you?
Your name: dasith
Your computer's name: first-time-with-linux
The name it uses when it talks to other computers.
Pick a username: dasith
Choose a password: ●●●●●●●●●●
Good password
Confirm your password: ●●●●●●●●●●
Log in automatically
Require my password to log in
Use Active Directory
You'll enter domain and other details in the next step.
Back
Continue
Right Ctrl

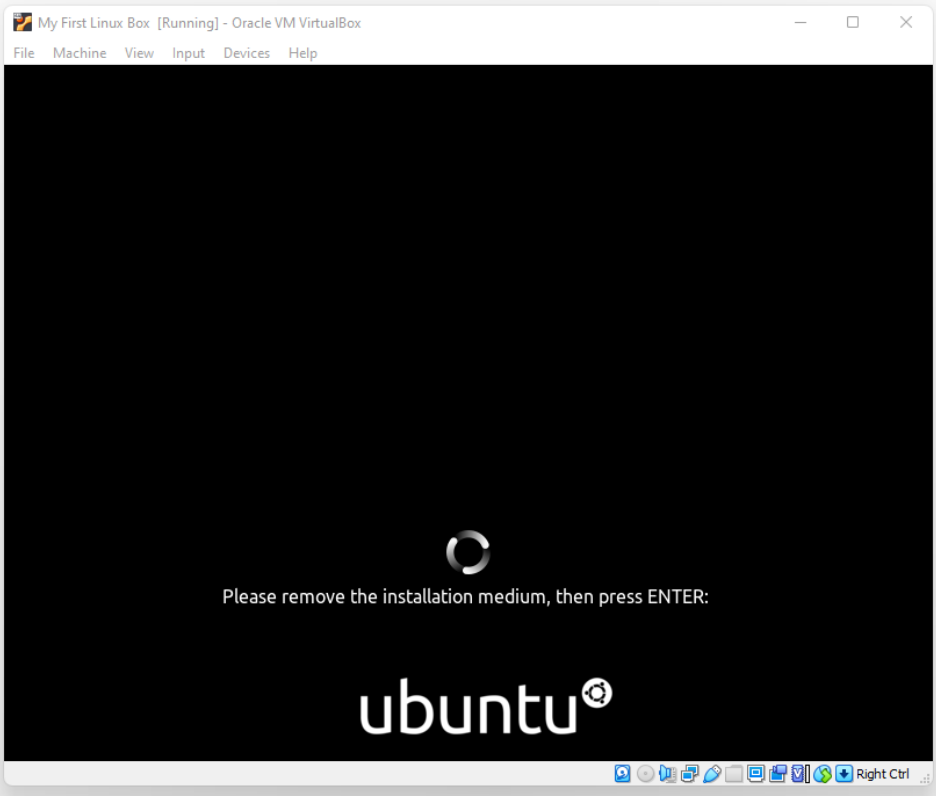
after you are done with that it will automatically start installing the Operating system. here it will give you a small introduction about the Ubuntu operating system



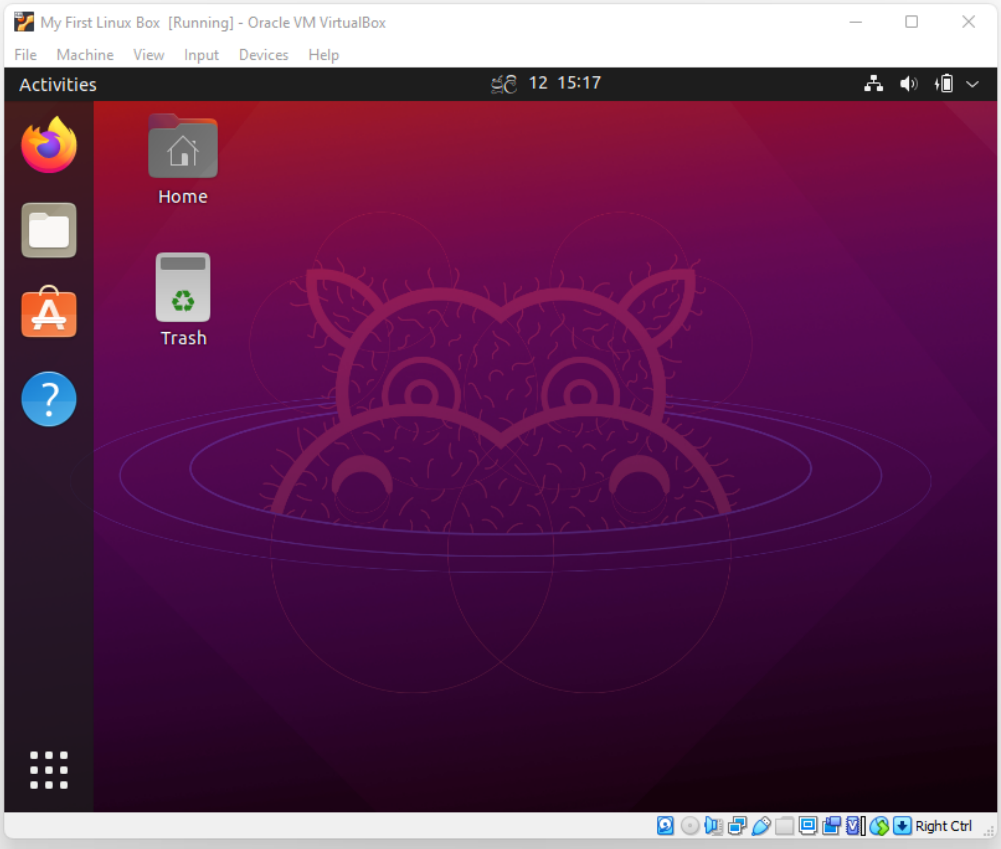
so after the installation is completed it will ask you to restart the virtual box, in that case just click on Restart now button and it will do the rest for you.


My First Linux Box [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Jul 12 15:10
Installation Complete
Installation is complete. You need to restart the computer in order to use the new installation.
Restart Now
Right Ctrl

and then it will ask you to remove the devices in that case just hit enter and it will successfully bootup

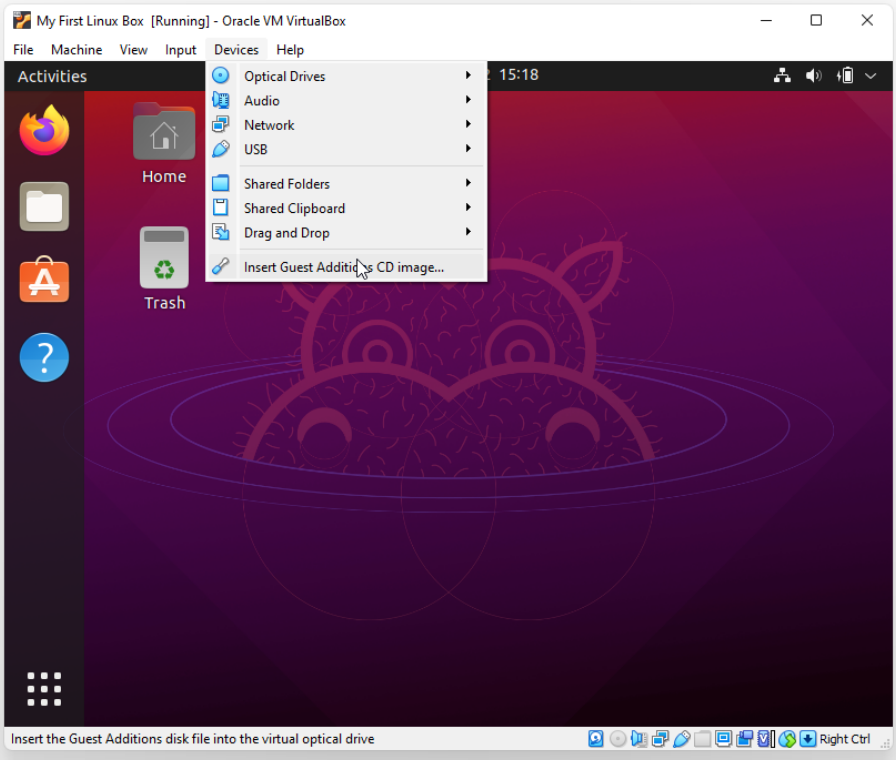

My First Linux Box [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Please remove the installation medium, then press ENTER:
ubuntu
Right Ctrl

and now wait till it boots up and then after that, you can click on your username, and then enter the password, and after that, you will get a small introduction again, about the store and to connect your accounts, but I skipped that and now you have your own Linux installation

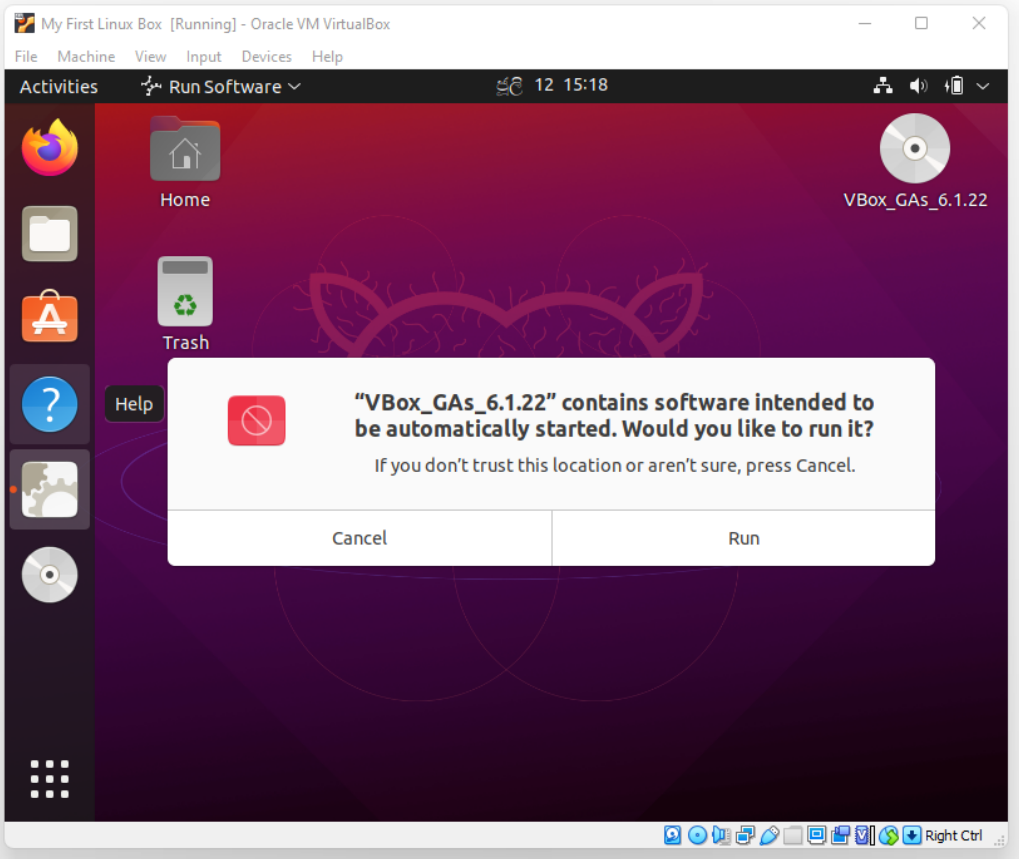


Fixing Full Screen

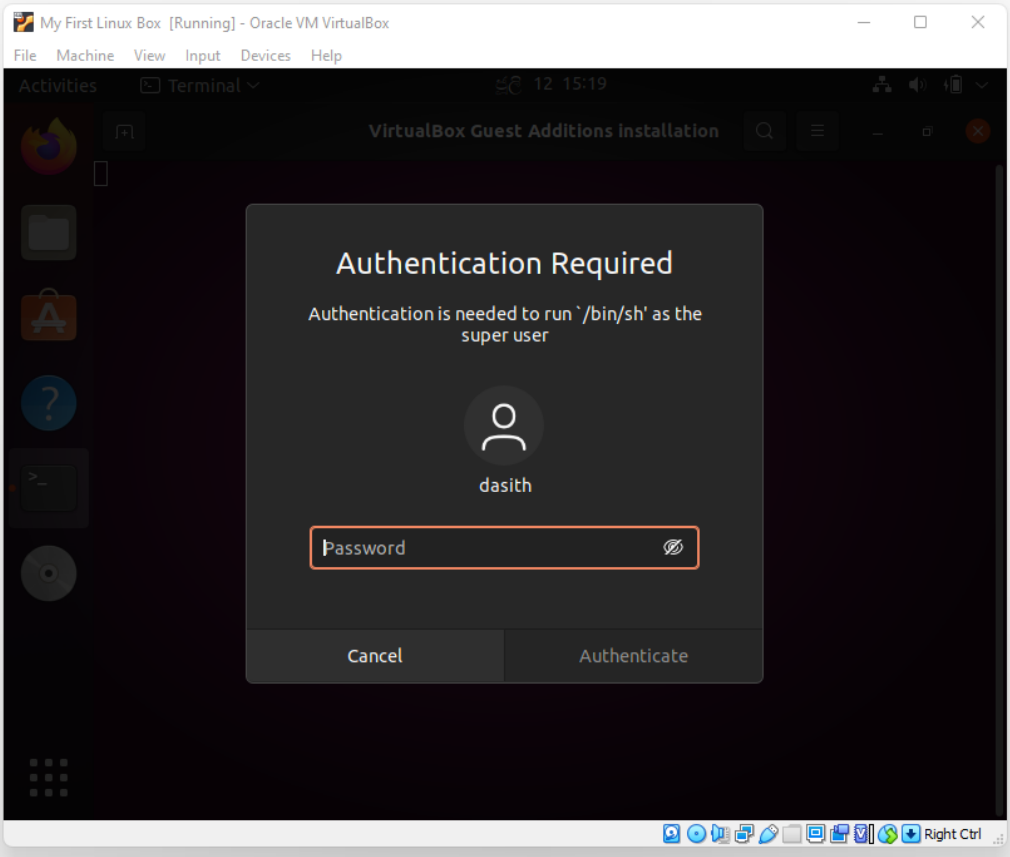
so just after you install ubuntu, if you are facing a problem that you can't make it full screen, like when you try to make it full screen the half will be blank. so this happens probably because you don't have guest Addison installed properly. don't worry fix is pretty simple. so what you have to do is click on the devices menu in the top bar and click on install guest additions



so after you click on that you will get a dialog box like below

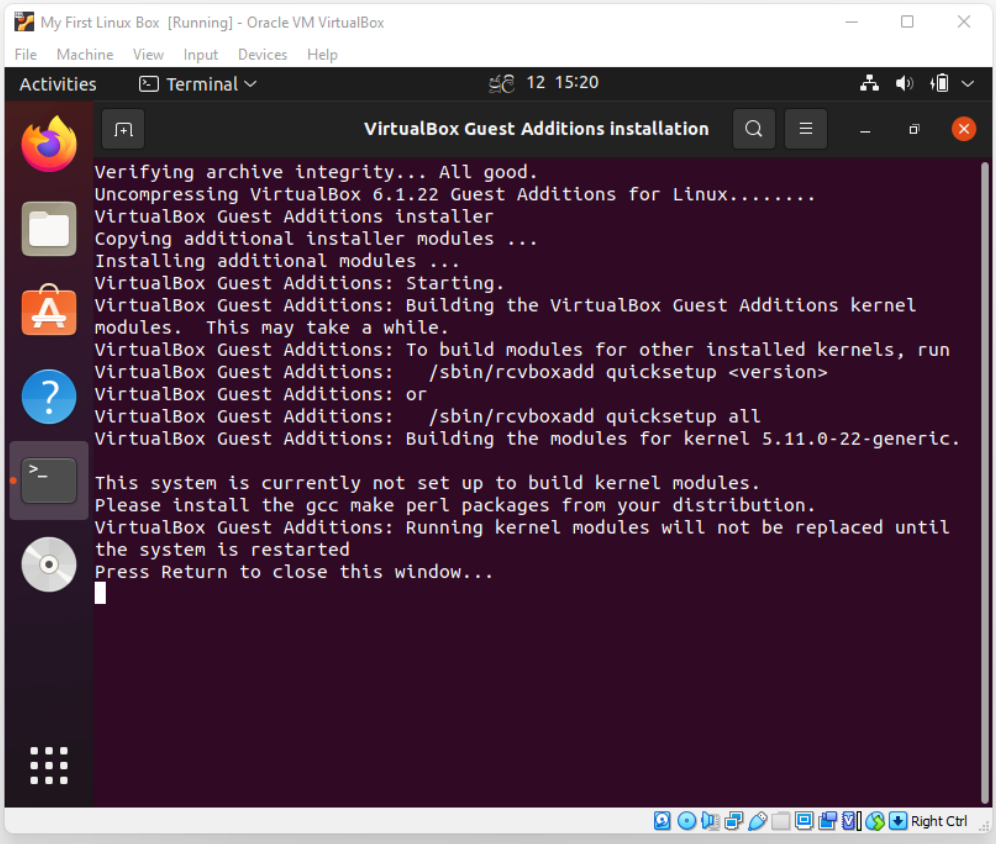


so just click on this, and also you need to enter the password to successfully complete this process because this process requires root privileges.

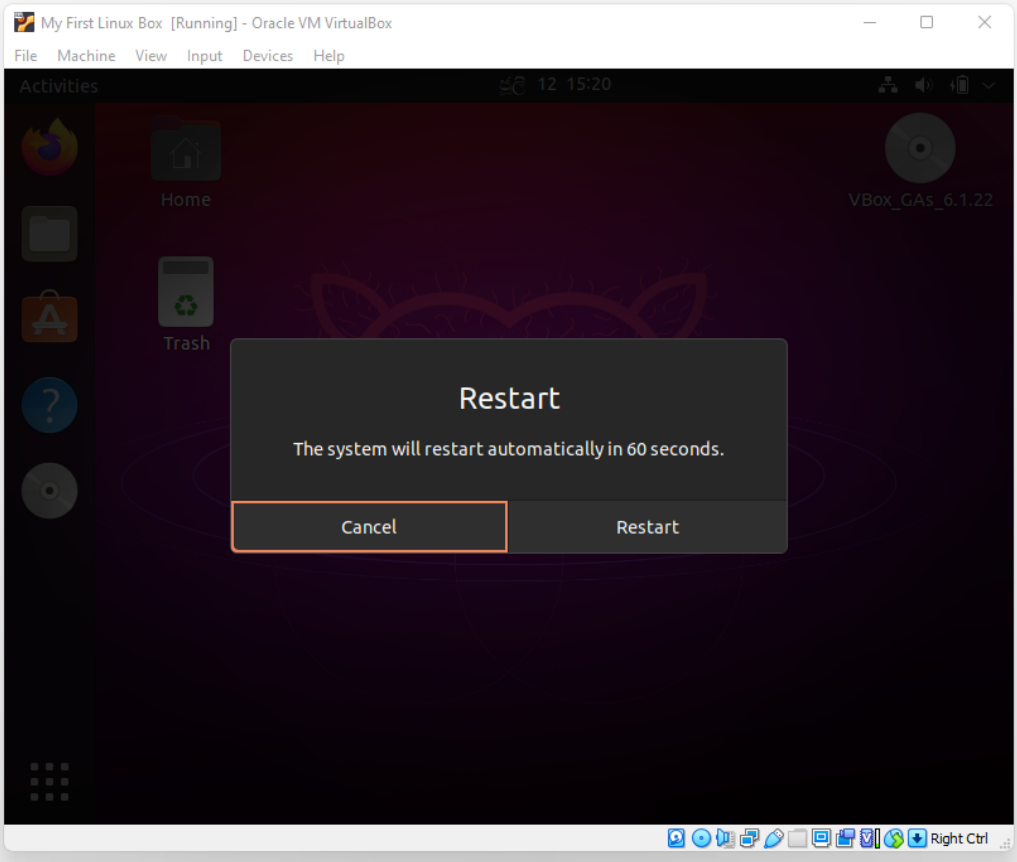


after you enter your password, now it will open a terminal automatically and it will run the file (it will install the guest additions for the virtual box) this might take around 2 minutes but it usually completes pretty fast.

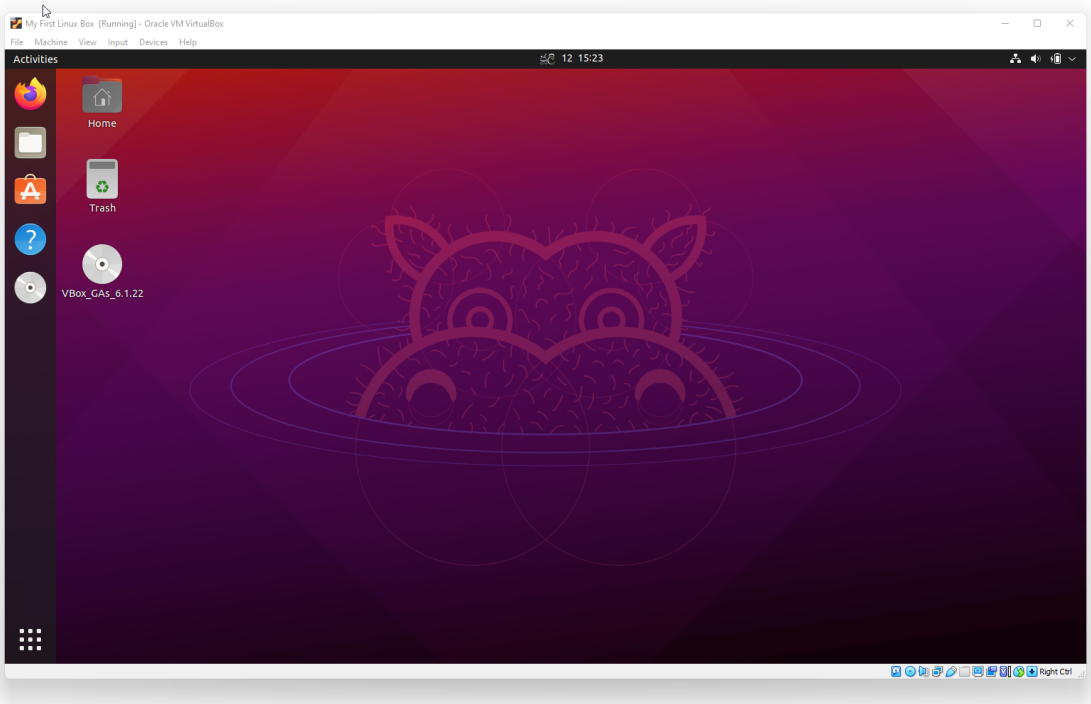
after it's completed you will get output like below. Click on the return key here (enter key) and the terminal window will close


My First Linux Box [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Activities
Terminal
12 15:20
VirtualBox Guest Additions installation
Verifying archive integrity... All good.
Uncompressing VirtualBox 6.1.22 Guest Additions for Linux........
VirtualBox Guest Additions installer
Copying additional installer modules ...
Installing additional modules ...
VirtualBox Guest Additions: Starting.
VirtualBox Guest Additions: Building the VirtualBox Guest Additions kernel modules. This may take a while.
VirtualBox Guest Additions: To build modules for other installed kernels, run
VirtualBox Guest Additions: /sbin/rcvboxadd quicksetup <version>
VirtualBox Guest Additions: or
VirtualBox Guest Additions: /sbin/rcvboxadd quicksetup all
VirtualBox Guest Additions: Building the modules for kernel 5.11.0-22-generic.
This system is currently not set up to build kernel modules.
Please install the gcc make perl packages from your distribution.
VirtualBox Guest Additions: Running kernel modules will not be replaced until the system is restarted
Press Return to close this window...
Right Ctrl

now you can restart again your ubuntu-vm to make the changers



after you restart successfully now you can resize your virtual Linux machine and also you can make it fullscreen



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